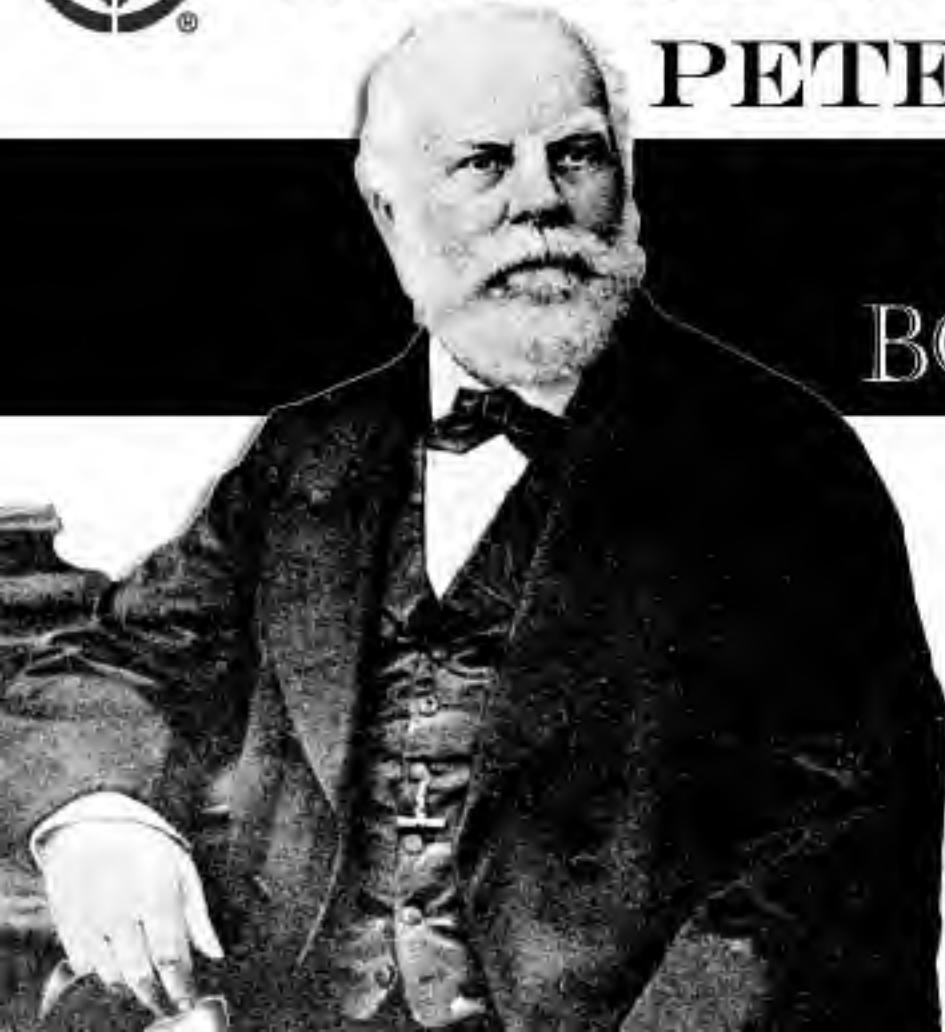




MISSOURI BOTANICAL GARDEN

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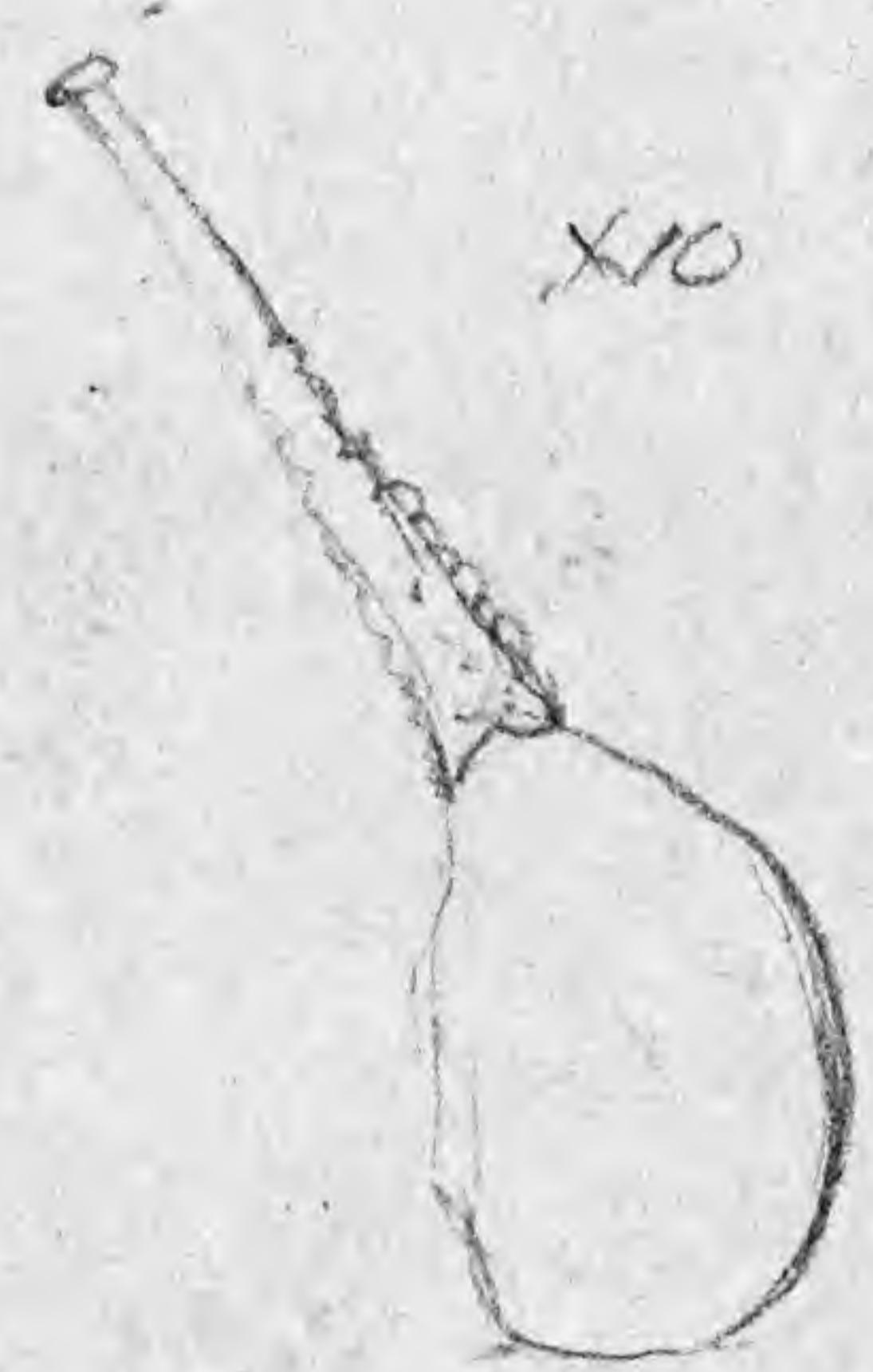
P. Pennsylvanica

June 10 1867

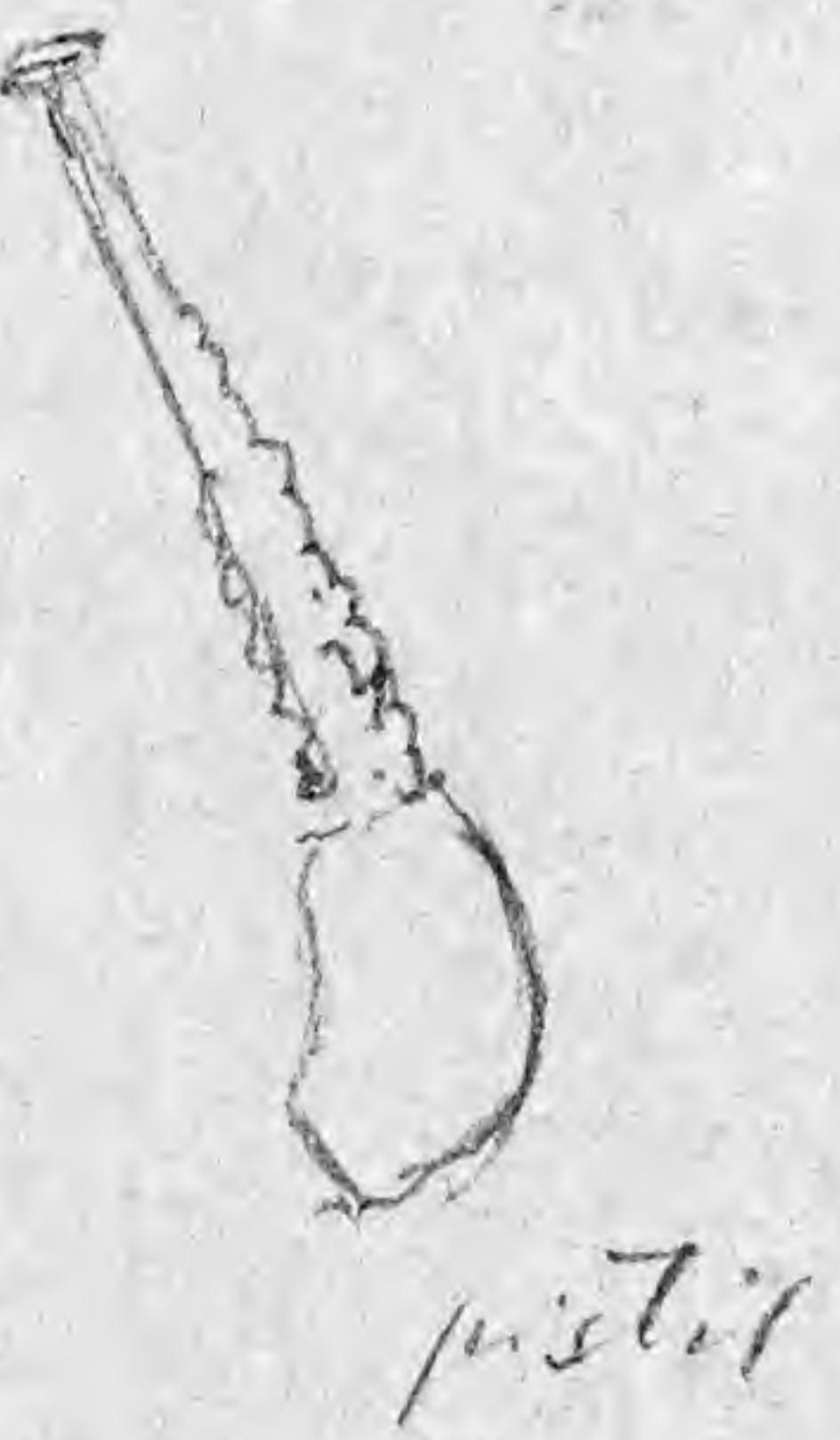
var. *arguta* s. *prinetti* f. *dr*

Hork Carlsruhe

716



x10



pistil

unripe achenes

with a large
ovule - conical
hairy recept

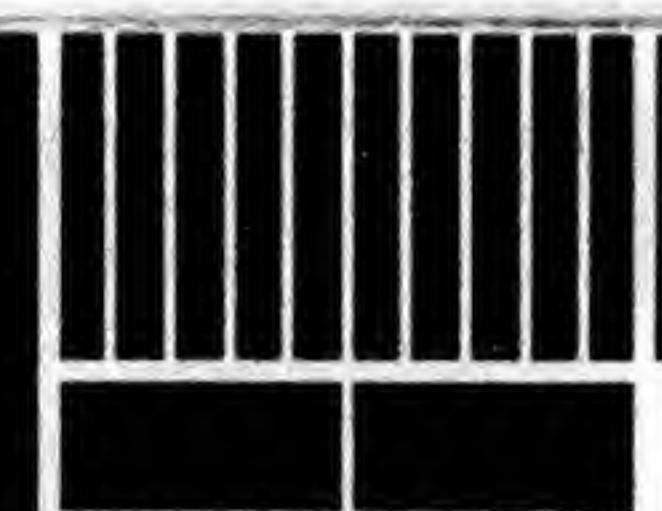


20 stam



x4

petal obviate
obcordate
profoundly emargin.



0 1 2 3 4 5 6 7 8 9 10
cm

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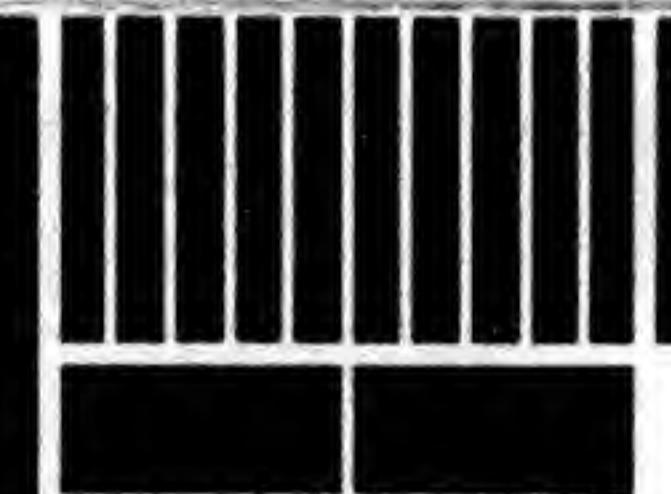


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0 1 2 3 4 5 6 7 8 9 10
cm

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Additional Remarks on ATMOSPHERIC ELECTRICITY.

By A. WISLIZENUS, M.D.

The delay in the publication of this volume enables me to add to my observations of atmospheric electricity in 1861, the result of my observations in 1862. The latter observations have been made in the same manner and by means of the same fine glass thread, which, after many thousand torsions, proves as good as ever. I present herewith in tabular form the general result of my observations in 1861 and 1862.

I. Monthly mean of Positive Atmospheric Electricity in 1861 and 1862, at St. Louis, Mo., based upon daily observations at 6, 9, 12, 3, 6 and 9 o'clock, from morning till night.

	Mean of												
	Jan.	Feb.	Mar.	Ap'l.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861*	16.5	12.1	9.8	8.8	7.8	4.0	3.7	3.4	3.0	7.1	10.0	14.3	8.4
1862...	12.1	16.0	9.4	10.6	7.5	3.0	2.2	2.3	3.0	7.7	12.6	13.9	8.4

* This table of 1861 differs in some decimals from that published on page 66 and in Diagram No. 1. Having discovered some errors, I calculated all my observations once more, and give now the present as the corrected table.

II. Monthly mean of Temperature and of Relative Humidity in 1861 and 1862, at St. Louis, Mo., based upon daily observations, cotemporaneous with those of Atmospheric Electricity.

	Mean of												
	Jan.	Feb.	Mar.	Ap'l.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861...	32.2	40.4	44.8	58.1	64.1	76.9	77.5	78.6	69.1	57.9	46.0	39.7	57.1° F.
1862...	28.9	30.2	43.2	55.0	69.7	75.1	81.2	80.7	72.1	57.3	42.6	41.3	56.4° F.

	Mean of												
	Jan.	Feb.	Mar.	Ap'l.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1861...	72.2	63.3	64.5	61.5	66.3	70.8	66.3	69.6	77.3	76.6	69.0	74.3	69.5
1862...	85.3	73.9	70.8	67.0	57.3	67.0	66.8	64.3	74.2	67.2	69.5	74.6	69.8

III. Yearly mean of Positive Electricity of Temperature, and of Relative Humidity of the Atmosphere, at the hours of 6, 9, 12, 3, 6 and 9, from morning till night, based upon daily observations at these hours through the years 1861 and 1862, at St. Louis, Mo.

	ELECTRICITY.					
	At 6 A.M.	At 9 A.M.	At 12 M.	At 3 P.M.	At 6 P.M.	At 9 P.M.
1861	8.6	10.0	9.2	7.9	8.7	6.9
1862	8.9	10.0	9.1	7.3	8.1	6.8

	TEMPERATURE.					
	1861	1862	1861	1862	1861	1862
	48.9° F...	48.9	54.9	55.0	61.6	60.9
					63.6	62.3

	RELATIVE HUMIDITY.					
	1861	1862	1861	1862	1861	1862
	86.4	5.3	71.3	70.6	60.3	60.0
					57.2	57.5

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cm

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IV. *Direction of Winds and number of Thunderstorms in '61 & '62.*

1861.	E.	N.	N.E.	S.W.	N.W.	S.	W.	S.E.	Prevailing Winds.	Thunderstorms.
January	11	3	12	22	38	18	28	61	S.E.	0
February	4	2	2	35	24	19	41	60	S.E.	2
March.....	12	11	10	23	30	19	42	40	W. & S.E.	3
April	16	10	9	26	21	35	34	26	S. & W.	2
May	26	10	23	21	8	13	49	35	W. & S.E.	5
June	12	21	22	20	25	26	8	41	S.E.	7
July	3	31	14	21	26	46	15	29	S.	3
August	18	24	58	17	11	18	3	37	N.E.	5
September...	6	14	18	26	30	13	21	52	S.E. & N.W.	3
October	12	9	5	21	30	33	30	46	S.E. & S.	1
November....	7	15	8	22	27	20	36	44	S.E. & W.	1
December ...	9	19	9	25	23	33	17	51	S.E. & S.	0
	136	169	190	279	293	293	324	522	S.E.	32

1862.	E.	S.W.	N.	N.E.	W.	S.	N.W.	S.E.	Prevailing Winds.	Th. st's.
Jan.....	19	6	19	23	29	3	38	51	S.E.	1
Feb.....	14	9	18	16	22	7	39	43	S.E. & N.W.	0
March ...	9	14	3	15	59	10	34	43	W., S.E. & N.W.	4
April	12	13	18	31	18	11	34	47	S.E., N.W. & N.E.	6
May	12	18	14	38	18	30	14	44	S.E. & N.E.	5
June	3	29	24	16	8	36	26	23	S., S.W., N.W., N. & S.E.	6
July.....	5	25	17	7	2	24	31	77	S.E.	10
August..	6	16	16	45	5	22	28	48	S.E. & N.E.	7
Sept.	16	10	21	18	11	18	13	72	S.E.	6
Oct.....	1	15	19	4	10	40	47	46	N.W. & S.E.	1
Nov.....	14	19	21	12	43	19	34	18	W. & N.W.	0
Dec.....	11	17	21	5	34	45	13	38	S., S.E. & W.	4
	112	191	211	230	259	265	351	550	S.E.	50

V. *Positive or Negative Electricity in the Observations of '61 & '62.*

	Positive Electricity.		Negative Electricity.		No Electricity, or 0.		Highest Positive Electricity.	
	1861.	1862.	1861.	1862.	1861.	1862.	1861.	1862.
Jan.....	179	179	3	5		2	40°	40°
Feb.....	162	166	6	2			34	33
March ...	168	179	15	8			30	48
April	157	157	12	22	1	1	33	52
May	171	180	17	5	1	3	25	32
June	162	143	5	2	8	20	16	21
July.....	183	153	3	8	1	24	14	11
August..	176	143	5	4	6	40	15	19
Sept.....	169	117	1	1	10	61	18	23
Oct.....	162	143	4	3	20	41	33	35
Nov.....	172	157	2	7	6	16	42	42
Dec.....	175	166	5	0	6	17	37	35
	2046	1883	78	67	59	225	42°	52°

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cm

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m.

P. Pensylv. ? downyfl? June 10 1867

Manawassee Twp. Dayton Jan 30 1853

717



wrinkles light
achen not ripe

no doubt more wrinkled
when fully ripe



20 stam

petal
x4



0 1 2 3 4 5 6 7 8 9 10
cm

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GARDEN

LEITCH & CORRIES,

20 & 22 FIFTH STREETS,

South-west Corner Fifth and Market streets.

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GEORGE ENGELMANN PAPERS



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cm

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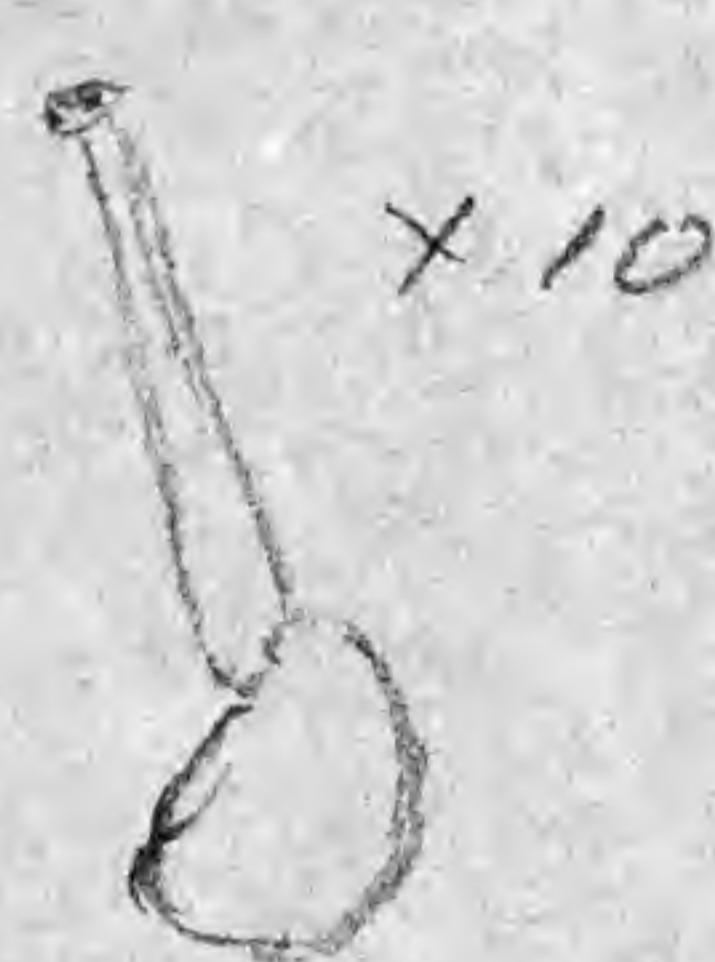
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6

P. Pennsylvania
Colorado, Hill No. 162

Jun 9 1867

718



$\times 10$

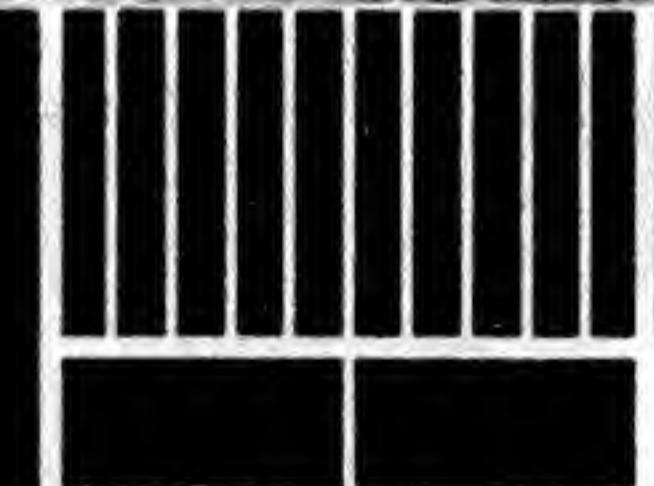


$\times 10$

20 stam



Petal $\times 4$



0 1 2 3 4 5 6 7 8 9 10
cm

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0 1 2 3 4 5 6 7 8 9 10
cm

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6

P. Pennsylvaniae

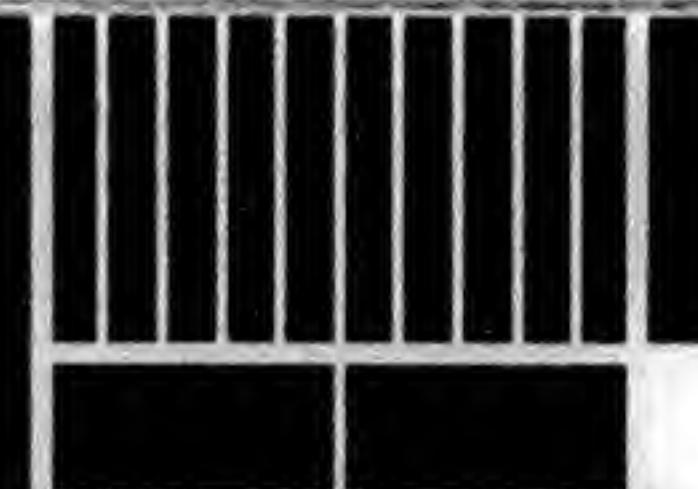
January 1867

719

Notts River, H. Douglass



fol pinnat



0 1 2 3 4 5 6 7 8 9 10
cm

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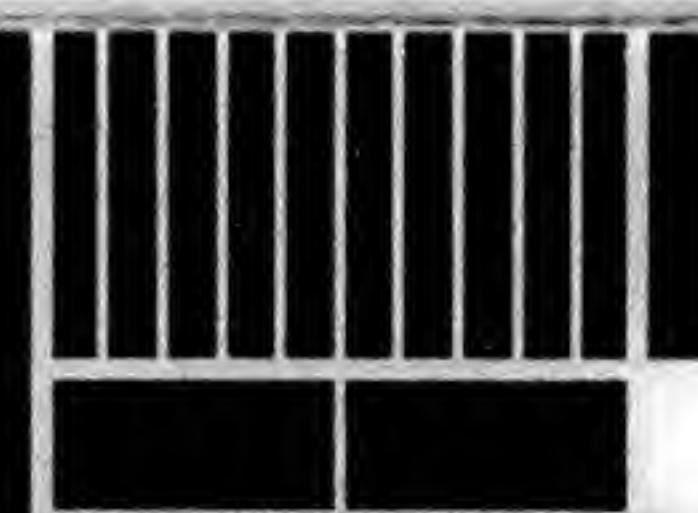


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0 1 2 3 4 5 6 7 8 9 10

cm

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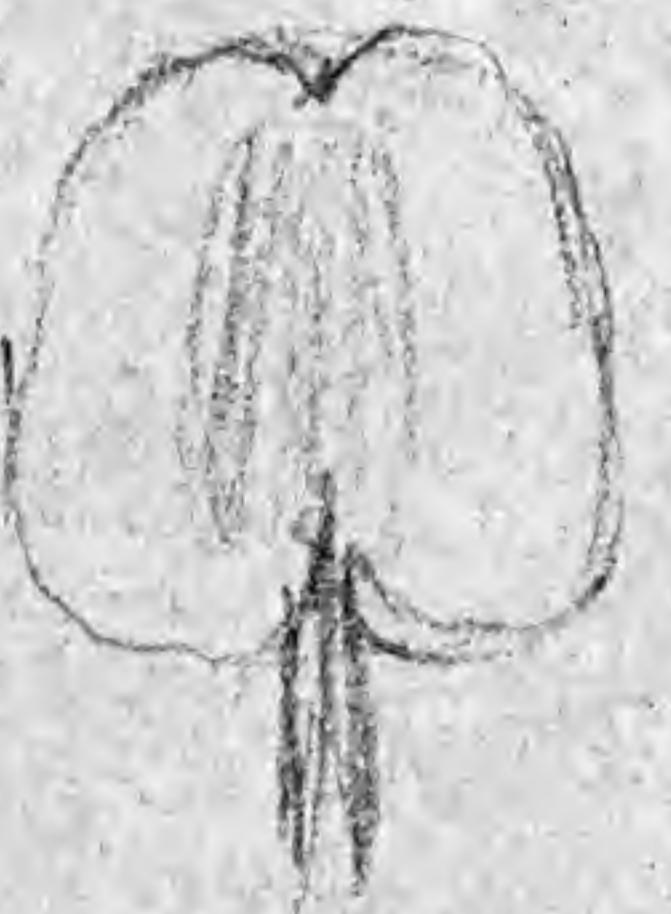
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GARDEN

K

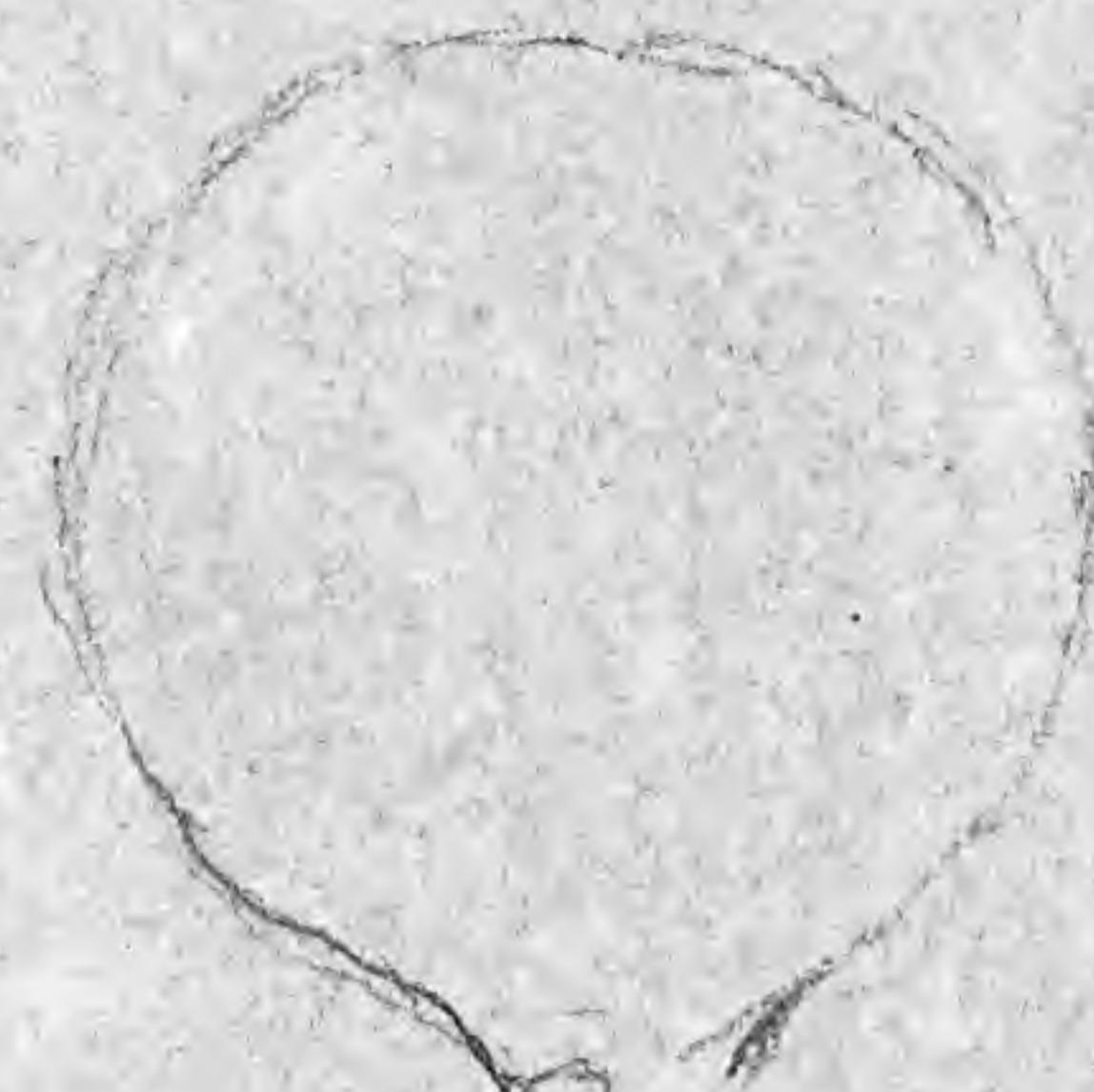
R. Pennsylvanicum June 7, 1867
Manus' des' Ferry 50 day down 1853

720

$\times 10$



$\times 4$



petals orbiculate

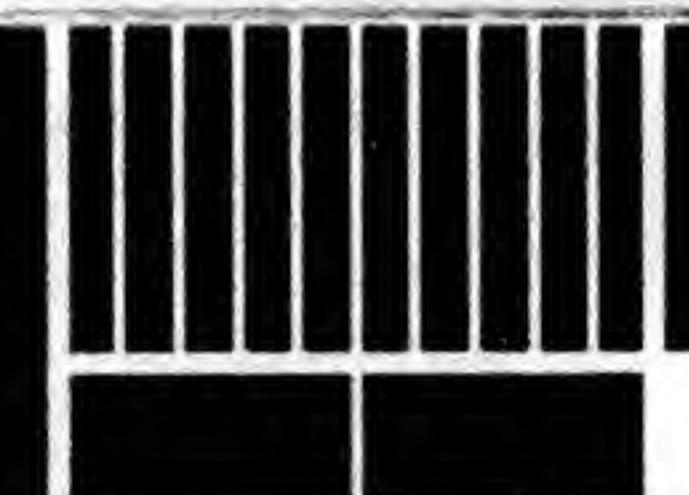
$\times 10$



flower
just
opening



after
dehiscence



0 1 2 3 4 5 6 7 8 9 10
cm

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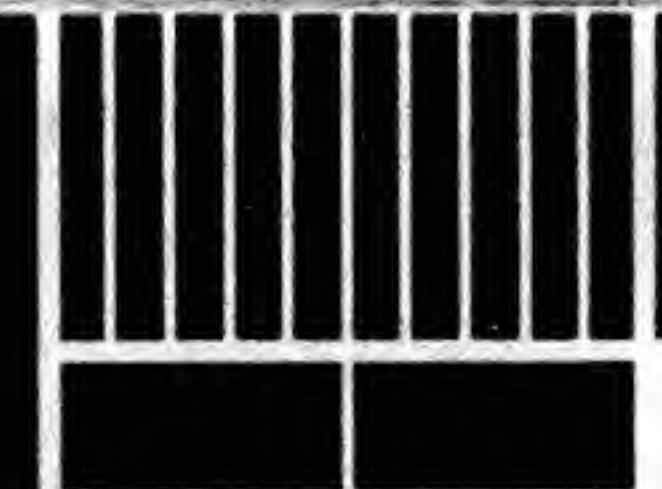


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0 1 2 3 4 5 6 7 8 9 10
cm

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GARDEN

n

P. Pennsylvaniae

June 10 1867

Santa Fe, Fowler 202

721

The Broad-leaved species

$\times 10$



$\times 10$

$\times 10$



very young
achene

20 stam



petal
 $\times 4$



0 1 2 3 4 5 6 7 8 9 10

cm

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20 MARKET ST.,

South-west Corner Fifth and Market streets.

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0 1 2 3 4 5 6 7 8 9 10

cm

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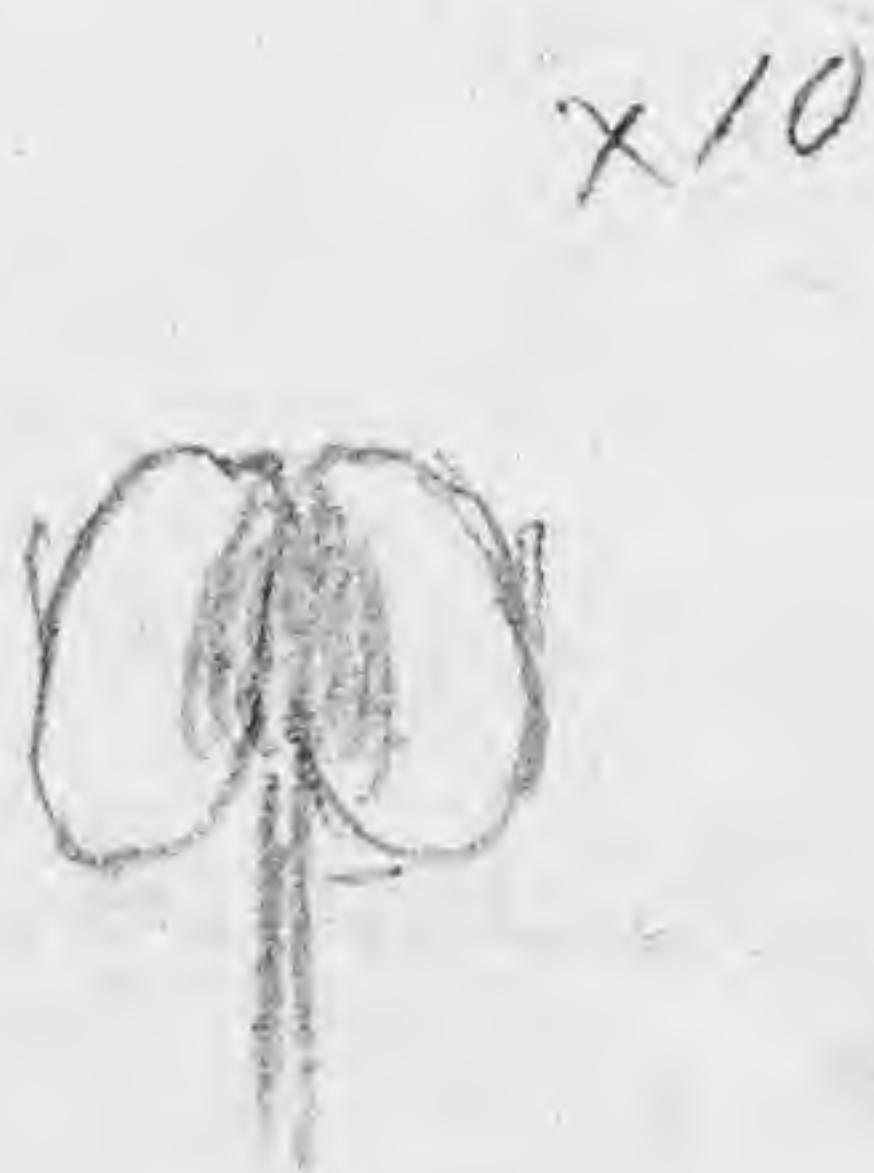


MISSOURI
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GARDEN

P. Pennsylvania

June 15 1867

Santa Fe Number 201



compressed
slightly rugose

722



0 1 2 3 4 5 6 7 8 9 10
cm

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0 1 2 3 4 5 6 7 8 9 10
cm

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GARDEN

P. Pennsylvaniae

June 11 1867

Paris 1852.



20 stam



petal
x4

723



0 1 2 3 4 5 6 7 8 9 10

cm

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203 U & G S S, S,

South-west Corner Fifth and Market streets.

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0 1 2 3 4 5 6 7 8 9 10

cm

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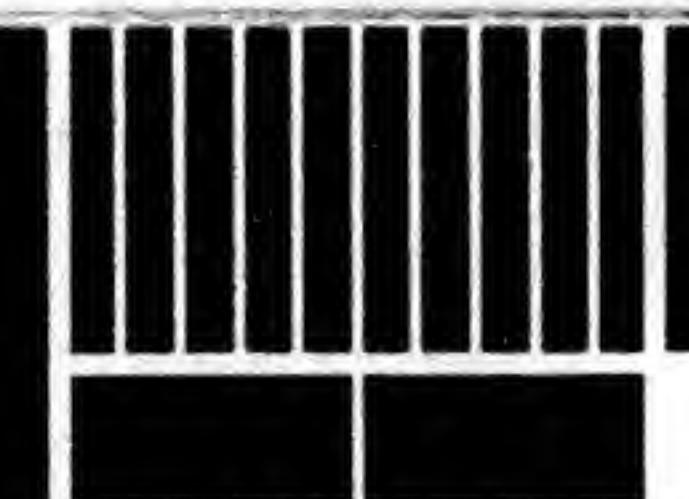
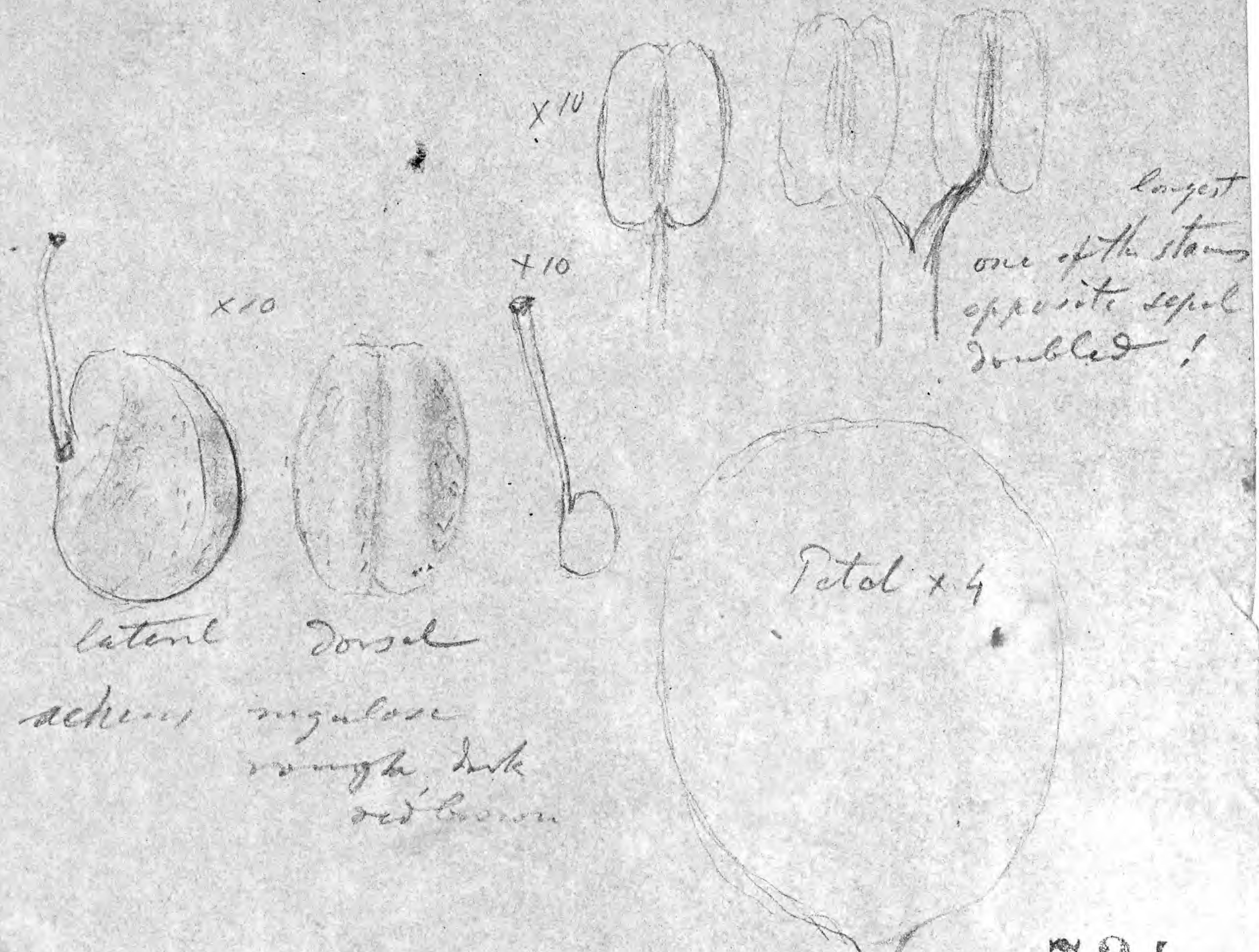
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X

P. australis

South Fe., Franklin Co.

June 10 1867



0 1 2 3 4 5 6 7 8 9 10

cm

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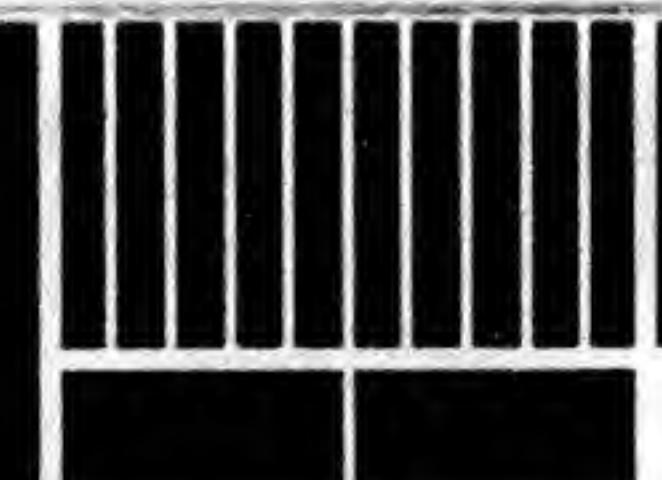


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cm

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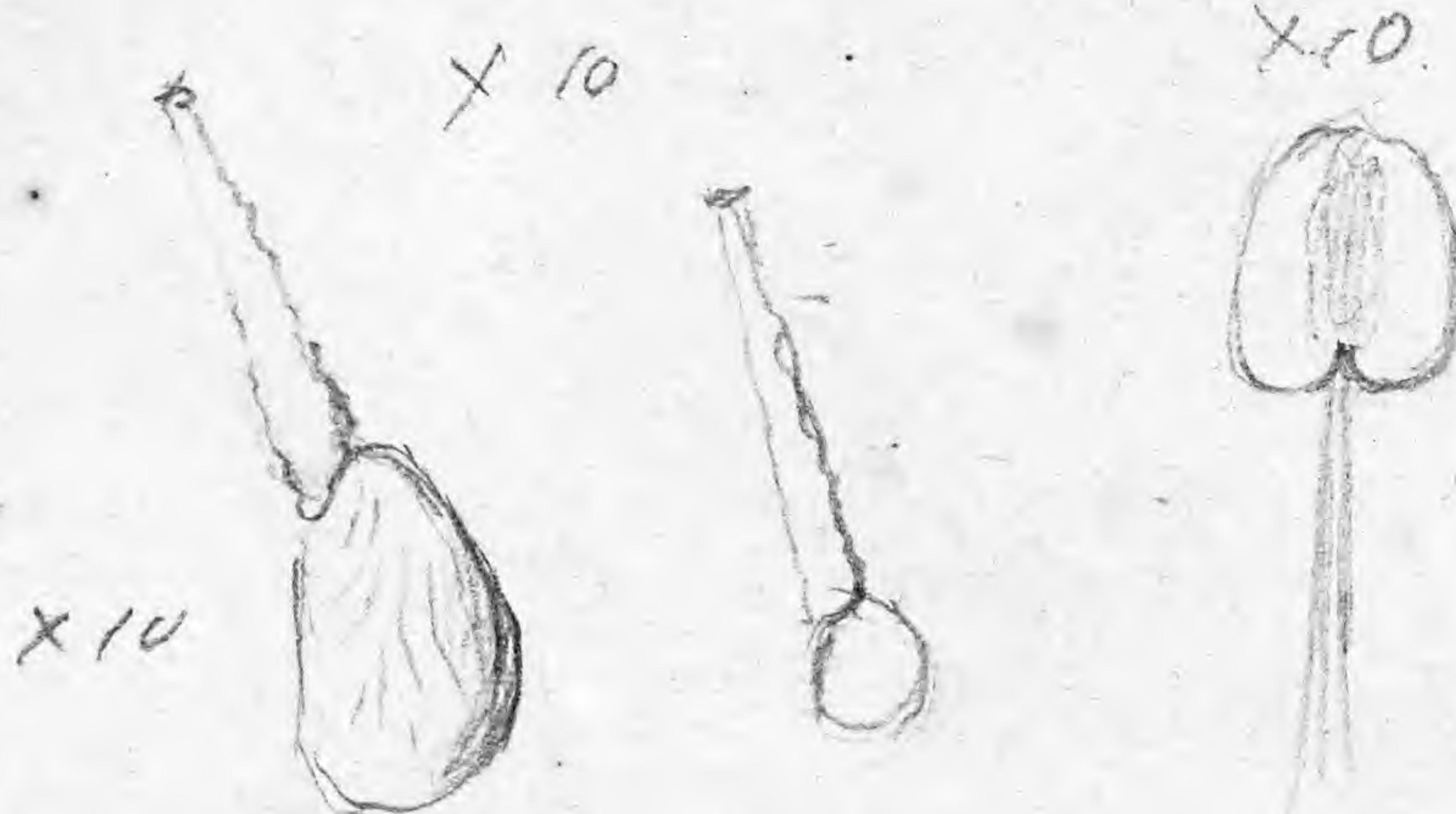


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28

June 8th 1867

Hayden 159, Mission bottom



x10

x10

x10

petal x3

from a full grown bud

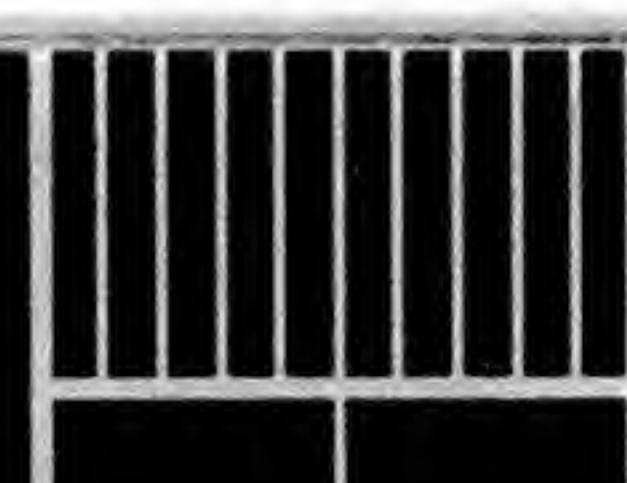
recept. oblong
wilted

to stam

style a little longer
than the anther
very thick at base
anthers slightly rugose

fruit & style of *Pennisetum*
Habit of *Hippocratea*

fol pinn. serrato -
to me



0 1 2 3 4 5 6 7 8 9 10

cm

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0 1 2 3 4 5 6 7 8 9 10

cm

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3
P. Rottaei var. *virgata* June 9 1867
Haller No 726.



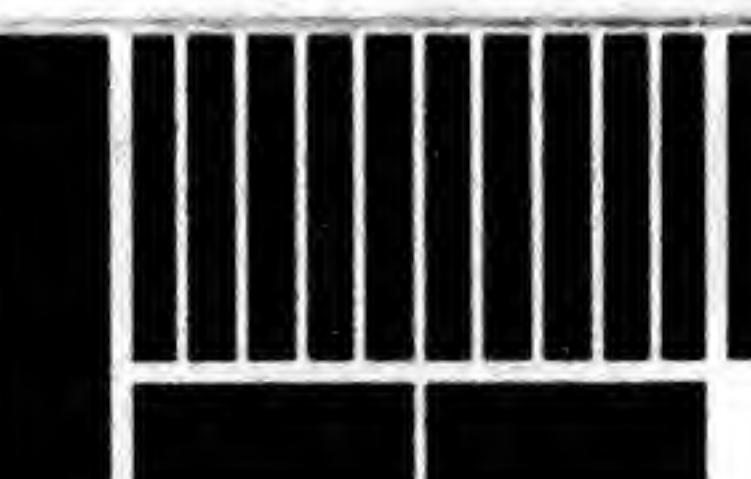
20 stam.

anthers older
of the stamens are
succulent, smaller



petal x 4

transverse and
vertical to the
excurrent anthers



0 1 2 3 4 5 6 7 8 9 10
cm

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0 1 2 3 4 5 6 7 8 9 10
cm

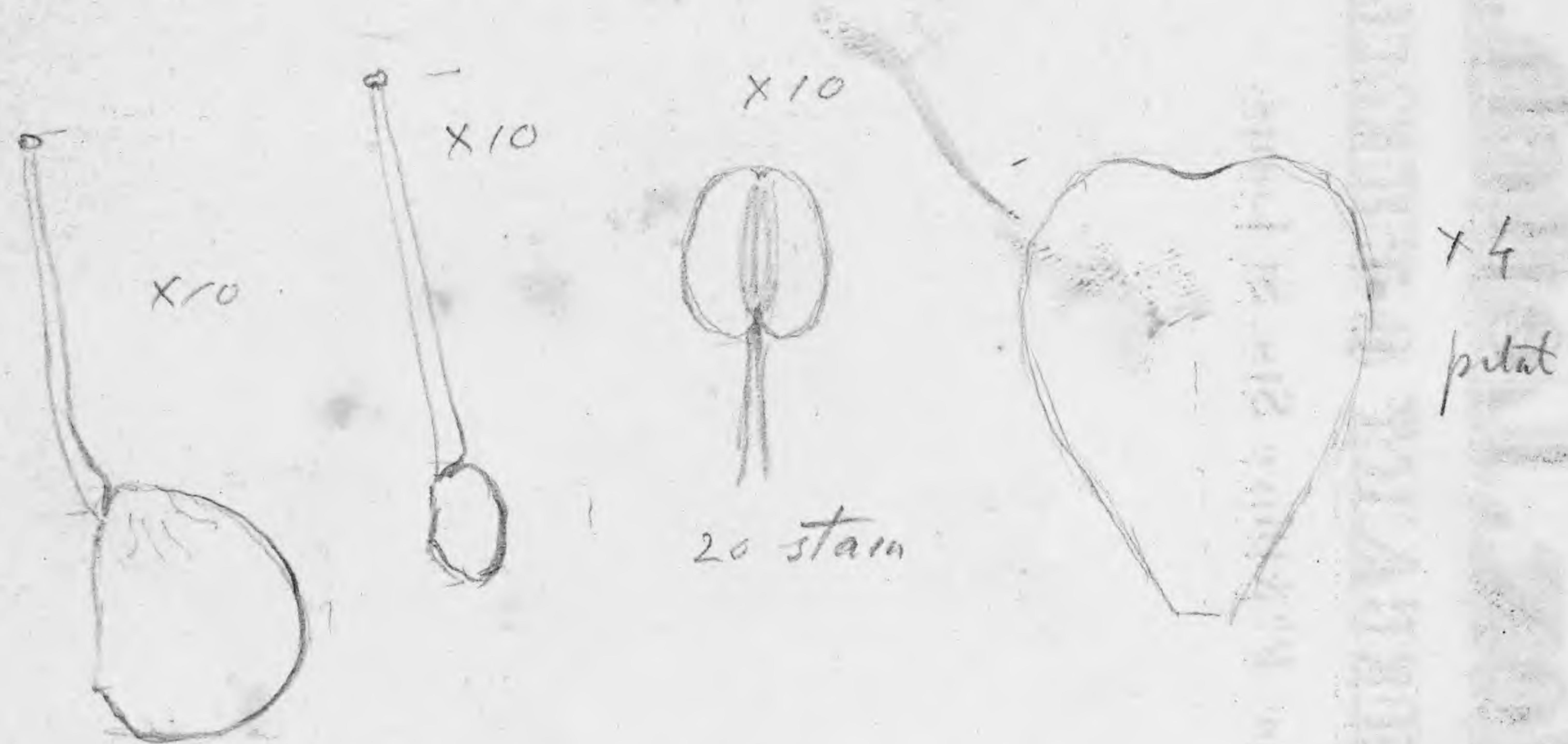
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9

O. ornata Gray June 11 1867
Sant. R., Fladdeva m.



not quite ripe
very slightly
rugose upward

727

fruit more globose than in any allied species



0 1 2 3 4 5 6 7 8 9 10
cm

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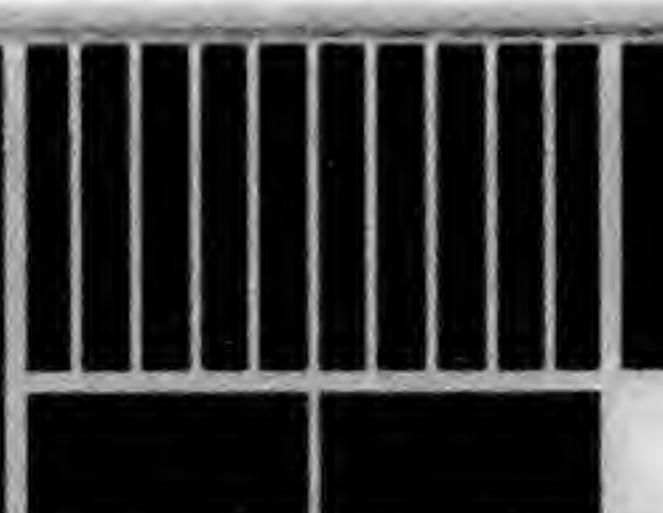


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0 1 2 3 4 5 6 7 8 9 10
cm

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Remarks

head, the do-nothing plan of Drs. JOHNSTON and LINTON might answer very well; and when the symptoms are insomnia, with the peculiar tremors, when the organs are in pretty good condition you can do a great deal of good with opium. I don't, of course, give opium with an idea of eliminating the poison of alcohol from the system, but as a prophylactic against certain conditions which may supervene if quiet and sleep are not procured, viz: passive congestion of the brain or complete exhaustion, when the patient is apt to die. I have in such cases given as much as 80 grains in the course of 24 hours with good effect. I would not, however, continue opium too long if it does not produce sleep. In acute alcoholic poisoning or intoxication, we may have active congestion of the brain, and of course in such cases opium is contra-indicated because it has a tendency to produce congestion of the brain. Here we must use antiphlogistics and arterial sedatives, cold applications, purgatives, counter-irritants, or digitalis or veratrum viride. We must then, of course, make a proper and very careful diagnosis of every case and treat it accordingly.

DR. BOISLINERE. I saw the case reported to the society, and am very much obliged to Dr. Kennard for giving me the opportunity. It was certainly a most remarkable one and was evidently treated very judiciously and with great care. I merely wish to refer here to a plan of treating this disease with ammonia, on the ground of its antidotal properties, which I think a very rational one. I have long known that ammonia will very rapidly cure drunkenness, have frequently proved it by experiment, and the same idea has been applied in France to the treatment of delirium tremens.

DR. BLAND. I think Dr. Hammer takes the proper view of the pathology and treatment of this disease; at any rate his views of the pathology accord entirely with mine. In this disease we have two very different pathological conditions. 1st. An exhaustion of nervous power, derangement of the nerve centres, when we have the peculiar delirium, the hallucinations, so varied and characteristic of this disease, and the muscular tremors, the mind becoming entirely deranged from the poisonous effects of the alcohol on the whole system and the brain in particular. In these cases, the judicious use of opium is the proper plan. In the second class of cases we have either a tendency to, or actual congestion or inflammation of the

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duced by withdrawal of stimulus, is not true, and that in his large experience every case was produced by continued use of alcohol or abuse of opium; and in his article, to be found in Braithwaite's Retrospect, he clearly demonstrates, to my mind, that continuance, and not withdrawal of stimulus, is the cause of the delirium tremens. He states, from the time the delirium first manifests itself, until it passes off entirely, is generally from 20 to 60 hours, but it may not pass off till a much longer period expires; and that we need not be uneasy about the case until 9 days have passed. Remove the cause of the disease, and it will generally be cured; and hence, by withdrawal of stimulus we will remove the cause, and unless there be some organic lesion of the brain, the case will terminate in health.

Dr. LINTON said he did not propose entering into a discussion as to the pathology of delirium tremens, but merely wished to state that the treatment which he pursues of late years in this disease is very similar to that which Dr. JOHNSTON recommends; that is, knowing that a great many cases will get well without any treatment, he pursued the expectant plan—left the case pretty much to nature, and was very careful in giving opium. In early life, believing sleep to be necessary to cure the disease, and opium the remedy to produce sleep, he had sometimes given too much opium.

Dr. A. HAMMER said he was much interested in the report of the remarkable case detailed before the Society. He could not go so far as Dr. JOHNSTON—to discard all treatment in this disease; but he thought, as in almost everything else, the middle ground was the safest. In this disease, whether it be delirium tremens or mania a potu, we must remember that we may have two very different conditions to deal with; one where there is simply derangement of the nervous centres, irritation or exhaustion, with derangement of the functions of the mind, produced by the poisonous effects of alcohol; all the tissues, the nervous, and the muscular, are saturated with alcohol; the mucous membranes are inflamed by it; and it will take a long time to eliminate this poison, to restore to the proper condition the muscular tissue, the nervous tissue, and the mucous membranes. This is one condition we have; but we may have another and a very different and much more dangerous condition—viz: a passive or even active congestion of the brain; the two requiring very different treatment. In very slight cases, coming under the first

01

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0 1 2 3 4 5 6 7 8 9 10

cm

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Potentilla

June 4 1867

San Francisco Mountain, Arizona

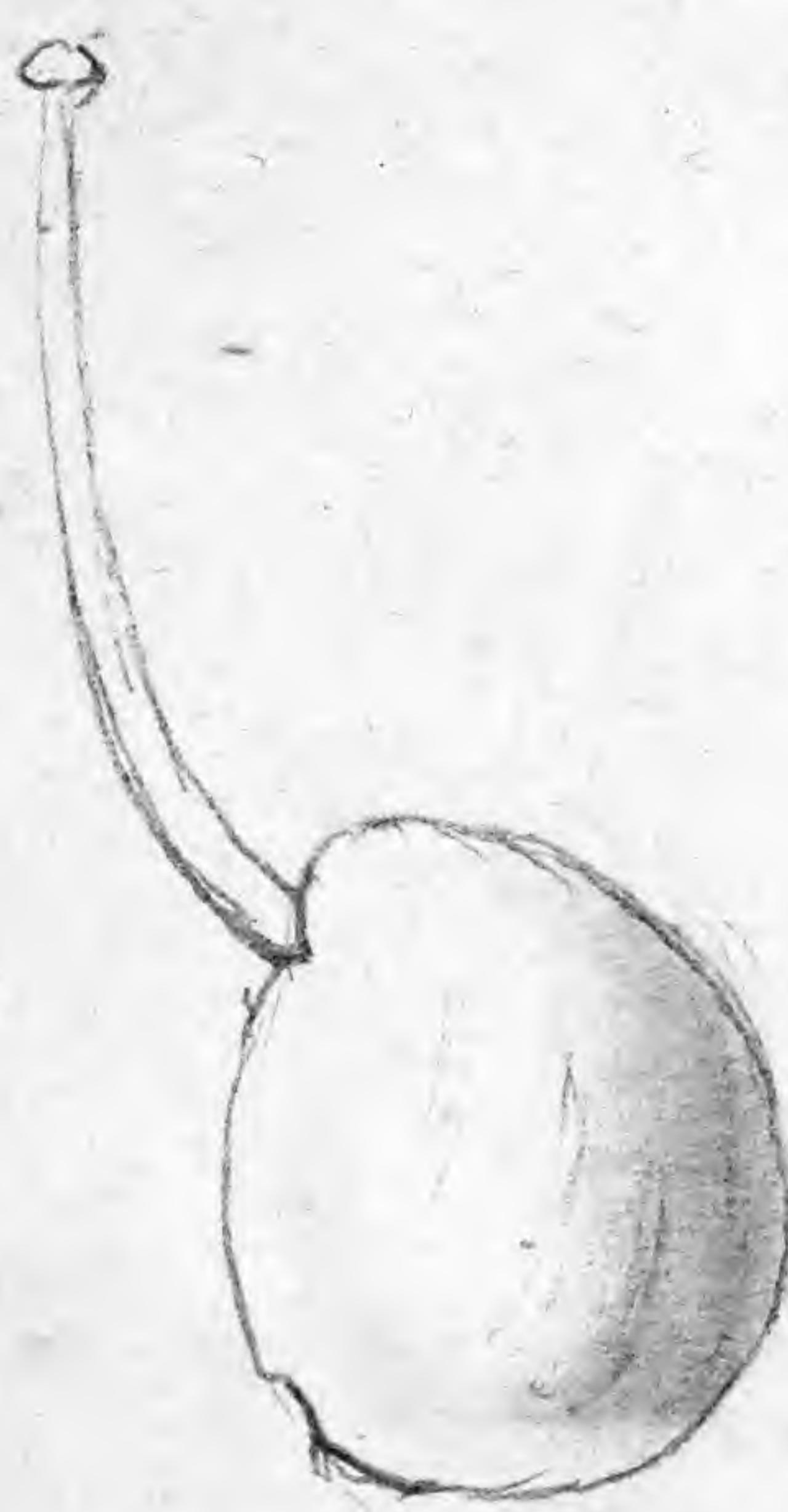
July 26th

20 stamens, emarginate petals
villous receptacle.

728

subglobose achenium

x10



x10

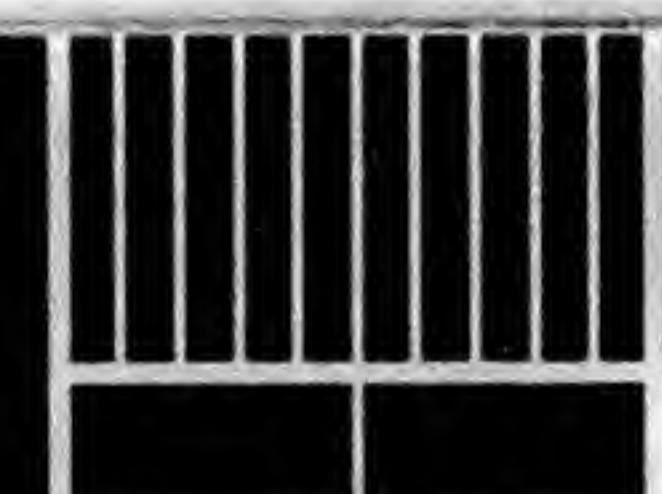


20 Stam

present day



Petal x4



0 1 2 3 4 5 6 7 8 9 10
cm

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ANGE TELL
APOTHECARY & CHEMIST

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GEORGE ENGELMANN PAPERS



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